

Application No.: 10/720,937

Docket No.: BA1-02-0914 (02-0914)

REMARKS

Claims 1-63 were pending in the patent application when a non-Final Office Action was mailed on November 19, 2004. Claims 1, 2, 9, 14, 24-27, 30, 34, 44, and 45 were rejected. Claims 3-8, 10-13, 15-23, 28, 29, 31-33, and 35-43 were objected to as being dependent upon a rejected claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 46-63 were allowed. The Examiner is thanked for indication of allowable subject matter.

By virtue of the amendments and arguments made herein, Applicant very respectfully submits that all claims pending in this patent application are allowable and are in condition for allowance. Applicant respectfully requests entry of the Amendment, reconsideration of all rejected claims, and allowance of all claims pending in this patent application.

I. CLAIM REJECTIONS – 35 USC § 112

Claims 9, 24, 25, 30, 44, and 45 were rejected under 35 USC § 112, ¶ 2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 9 and 30 have been amended to recite a “ring canard” instead of a “running”, and Claims 24 and 44 have been amended to recite “an internal” store instead of reciting “and interval” store. Claims 9, 24, 30, and 44 have been amended to overcome the rejections under 35 USC § 112, ¶ 2, not to narrow the claims or for any reason related to patentability.

Claims 25 and 45 depend from Claims 24 and 44, respectively. The amendments to Claims 24 and 44 provide proper antecedent basis for “the internal store” recited in Claims 25 and 45, thereby rendering moot the rejection to Claims 25 and 45 under 35 USC § 112, ¶ 2.

By virtue of the amendments to Claims 9, 24, 30, and 44, Applicant very respectfully submits that the rejections of Claims 9, 24, 25, 30, 44, and 45 under 35 USC § 112, ¶ 2 have been overcome and that Claims 9, 24, 25, 30, 44, and 45 are in condition for allowance. Applicant

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respectfully requests entry of the Amendment, and reconsideration and allowance of Claims 9, 24, 25, 30, 44, and 45.

II. CLAIM REJECTIONS – 35 USC 102

Claims 1, 2, 14, 26, 27, and 34 were rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 4,463,701 to Pickett et al.

The Office Action stated that Pickett et al. discloses the same submersible glider as claimed, as shown in Figures 1-5, that is comprised of a cylindrical hull, defined as part no. 12, with a wave-piercing bow, defined as part no. 13, and a stern, defined as part no. 15, first and second generally planar lifting surfaces, defined as part no. 22, that are disposed toward said stern and have a pair of generally planar stabilizer surfaces, defined as part no. 28, that extend generally perpendicular to a plane of the first and second lifting surfaces, where the stabilizer surfaces are connected to ends of the first and second lifting surfaces, as shown in Figures 1 and 2.

Applicant respectfully traverses.

A. THE PICKETT ET AL. REFERENCE

Pickett et al. discloses a paravane with automatic depth control. A paravane is a device equipped with sharp teeth and towed alongside a ship to cut the mooring cables of submerged mines. The American Heritage Dictionary of the English Language: Fourth Edition, 2000. Generally, paravanes towed by minesweepers are connected to a cable system so that the paravanes are positioned behind and laterally offset from the tow point of the minesweeper to maximize the sweep area. Various depth control means have been utilized to maintain the paravanes at a predetermined depth. Pickett et al., column 1, lines 17-22.

Accordingly, it is an object of Pickett et al. to provide an underwater apparatus capable of achieving and maintaining a controlled depth. *Id.*, column 2, lines 5-7. It is another object of Pickett et al. to provide a towed underwater apparatus which utilizes depth control means, whereby

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a large vertical lift force can be generated to support the weight of the towing cable and attached devices so that depth can be maintained even at a low towing speed. *Id.*, column 2, lines 26-31.

A paravane 11 is attached to a towing cable 8. The paravane 11, which resembles a biplane, includes a cylindrical fuselage 12 or body; a wing section 21 of spaced wing members 22 secured to the central portion 14 of the fuselage 12; and a control flap 31 pivotally connected to the fuselage 12 and extending generally normal to the planes defined by the wing members 22. A lateral stabilizer 18 is attached to the tail portion 15 of the fuselage 12 and extends in a generally perpendicular relationship with the planes defined by the wing members 22 for maintaining the fuselage 12 at a proper operating orientation in the water. The paravane 11 further includes a longitudinal stabilizer 19 secured to one portion of the lateral stabilizer 18 for maintaining the wing members 22 correctly lined up with the flow. *Id.*, column 2, line 58 – column 3, line 5 (emphasis supplied).

The wing section 21, which preferably comprises pairs of spaced wing members 22 arranged in the form of a biplane as depicted in the drawings, is attached to the central portion 14 of the fuselage 12. *Id.*, column 3, lines 47-50 (emphasis supplied). To provide further efficiency and operational stability, the wing members should be arranged such that the resultant hydrodynamic lift force vector for the wing section 21 passes through the towing point 9. *Id.*, column 4, lines 51-55 (emphasis supplied).

B. CLAIMS 1, 2, 14, 26, 27, AND 34 ARE NOT ANTICIPATED BY PICKETT ET AL.

Applicant very respectfully submits that Claims 1, 2, 14, 26, 27, and 34 are not anticipated by Pickett et al.

The paravane of Pickett et al. must achieve and maintain a controlled depth to provide operational stability – that is, so the paravane can cut the mooring cables of submerged mines. Thus, Pickett et al. discloses generating a large vertical lift force to support the weight of the towing cable and attached devices so that depth can be maintained even at a low towing speed. Thus, Pickett et al. teaches that the wing section 21, which preferably comprises pairs of spaced wing

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members 22 arranged in the form of a biplane as depicted in the drawings, is attached to the central portion 14 of the fuselage 12. Moreover, Pickett et al. emphasizes that, to provide further efficiency and operational stability, the wing members should be arranged such that the resultant hydrodynamic lift force vector for the wing section 21 passes through the towing point 9.

Thus, the wing section 21 of Pickett et al. is attached to the central portion 14 of the fuselage 12 and the hydrodynamic lift force vector for the wing section 21 passes through the towing point 9 to provide efficiency and operation stability -- so at low speeds the paravane 11 can maintain a controlled depth and cut the mooring cables of submerged mines.

Applicants very respectfully submit that Claims 1, 2, 14, 26, 27, and 34 are not anticipated by Pickett et al. because Pickett et al. does not teach or suggest all of the limitations of Claims 1, 2, 14, 26, 27, and 34. By teaching that the wing section 21 is attached to the central portion 14 of the fuselage 12 and the hydrodynamic lift force vector for the wing section 21 passes through the towing point 9 to provide efficiency and operation stability, Pickett et al. cannot and does not (and even teaches away from) "a first generally planar lifting surface disposed toward the stern" as recited in Claims 1 and 26. Because Pickett et al. does not teach or suggest (and even teaches away from) all of the limitations of Claims 1 and 26, Applicant respectfully submits that Claims 1 and 26 are not anticipated by Pickett et al. and are in condition for allowance. Applicant respectfully requests entry of the Amendment, and reconsideration and allowance of Claims 1 and 26.

Claims 2 and 14 depend from Claim 1, and Claims 27 and 34 depend from Claim 26. By virtue of their dependency and for other reasons, Applicant respectfully submits that Claims 2, 14, 27, and 34 are also not anticipated by Pickett et al. and are in condition for allowance. Applicant respectfully requests entry of the Amendment, and reconsideration and allowance of Claims 2, 14, 27, and 34.

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III. ALLOWABLE SUBJECT MATTER

Claims 3-8, 10-13, 15-23, 28, 29, 31-33, and 35-43 were objected to as being dependent upon a rejected claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 46-63 were allowed. The Examiner is thanked for indication of allowable subject matter.

For the reasons discussed above, Applicant respectfully submits that all base claims and intervening claims are in condition for allowance. Thus, Applicant respectfully submits that the objection to Claims 3-8, 10-13, 15-23, 28, 29, 31-33, and 35-43 has been rendered moot. Applicant respectfully requests entry of the Amendment, reconsideration and allowance of the rejected base and intervening claims, withdrawal of the objection, and allowance of Claims 3-8, 10-13, 15-23, 28, 29, 31-33, and 35-43.

CONCLUSION

In view of the above amendments and arguments, Applicant believes the pending application is in condition for allowance. By virtue of the amendments to Claims 9, 24, 30, and 44, the rejections of Claims 9, 24, 25, 30, 44, and 45 under 35 USC § 112, ¶ 2 have been overcome and Claims 9, 24, 25, 30, 44, and 45 are in condition for allowance. Claims 1, 2, 14, 26, 27, and 34 are not anticipated by Pickett et al. All base claims and intervening claims are in condition for allowance, and thus the objection to Claims 3-8, 10-13, 15-23, 28, 29, 31-33, and 35-43 has been rendered moot.

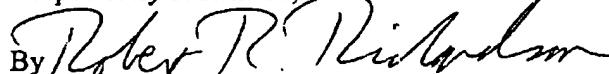
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By virtue of the amendments and arguments made herein, Applicant very respectfully submits that all claims pending in this patent application are allowable and are in condition for allowance. Applicant respectfully requests entry of the Amendment, reconsideration of all rejected claims, and allowance of all claims pending in this patent application.

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Respectfully submitted,


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